WHAT IS CLAIMED IS:

1. A thin film transistor comprising a semiconductor thin film disposed on a substrate, said semiconductor film being composed of a plurality of crystal grains and having present at least partly therein the clusters of grains which are the aggregation of two or more of said crystal grains.

2. A thin film transistor according to Claim 1, wherein said clusters of grains are the aggregates of two or more of the crystal grains having a size of 500 nm or less.

3. A thin film transistor according to Claim 1, wherein said clusters of grains are the aggregates of two or more of the crystal grains having the substantially same crystal orientation.

4. A thin film transistor according to Claim 3, wherein said crystal orientation of the crystal grains is identified at least by the transmission electron microscopical observation of the crystal lattice pattern or by the observation of the electron backscattering diffraction pattern.

5. A thin film transistor according to Claim 1, wherein the average thickness of said semiconductor film in the direction vertical to the substrate is 10 to 100 nm.

6. A thin film transistor according to Claim 1, wherein said semiconductor film contains at least Si, Ge or a compound of Si and Ge.

7. A thin film transistor according to Claim 1, wherein said clusters of grains have (111) preferred orientation in the direction substantially parallel to the substrate surface.

8. A thin film transistor according to Claim 1, wherein said clusters of grains have (111) preferred orientation in the direction substantially parallel to the substrate surface and the X-ray diffraction intensity ratio of the plane (111) to the plane (220) of said clusters is 5 or above.

9. A thin film transistor according to Claim 1, wherein surface roughness (Rmax) of said semiconductor film is 30 nm or less.

10. A thin film transistor according to Claim 1, wherein the standard deviation (RMS) of surface roughness of said semiconductor film is 10 nm or less.

11. A thin film transistor according to Claim 1, wherein average electron mobility of said semiconductor film is 200 $cm^2/V \cdot s$ or above.

12. A thin film transistor comprising a substrate and laminated thereon a thin semiconductor film, a channel, an insulator film, a gate electrode, a source electrode and a drain electrode, wherein said source and drain are connected to the source region and the drain region, respectively, provided at least in a region of said semiconductor film with said channel being interposed therebetween, and said semiconductor film has present at least partly therein the clusters

of grains formed by the aggregation of two or more of the crystal grains having (111) preferred orientation in the direction substantially parallel to the substrate surface.

13. A thin film transistor according to Claim 12, wherein the X-ray diffraction intensity ratio of the crystal plane (111) to the crystal plane (220) of said semiconductor film in said channel is at least greater than the X-ray diffraction intensity ratio of the crystal plane (111) to the crystal plane (220) of said semiconductor film in said source and drain regions.

14. A thin film transistor according to Claim 13, wherein the X-ray diffraction intensity ratio of the crystal plane (111) to the crystal plane (220) of said semiconductor film in said channel is 10 or above.

15. A method of manufacturing a thin film transistor comprising the steps of forming an amorphous semiconductor film on a substrate, and irradiating said amorphous semiconductor film with laser light to heat the film, wherein said laser irradiation is conducted a plural number of times to form clusters of grains in at least part of said amorphous semiconductor film.